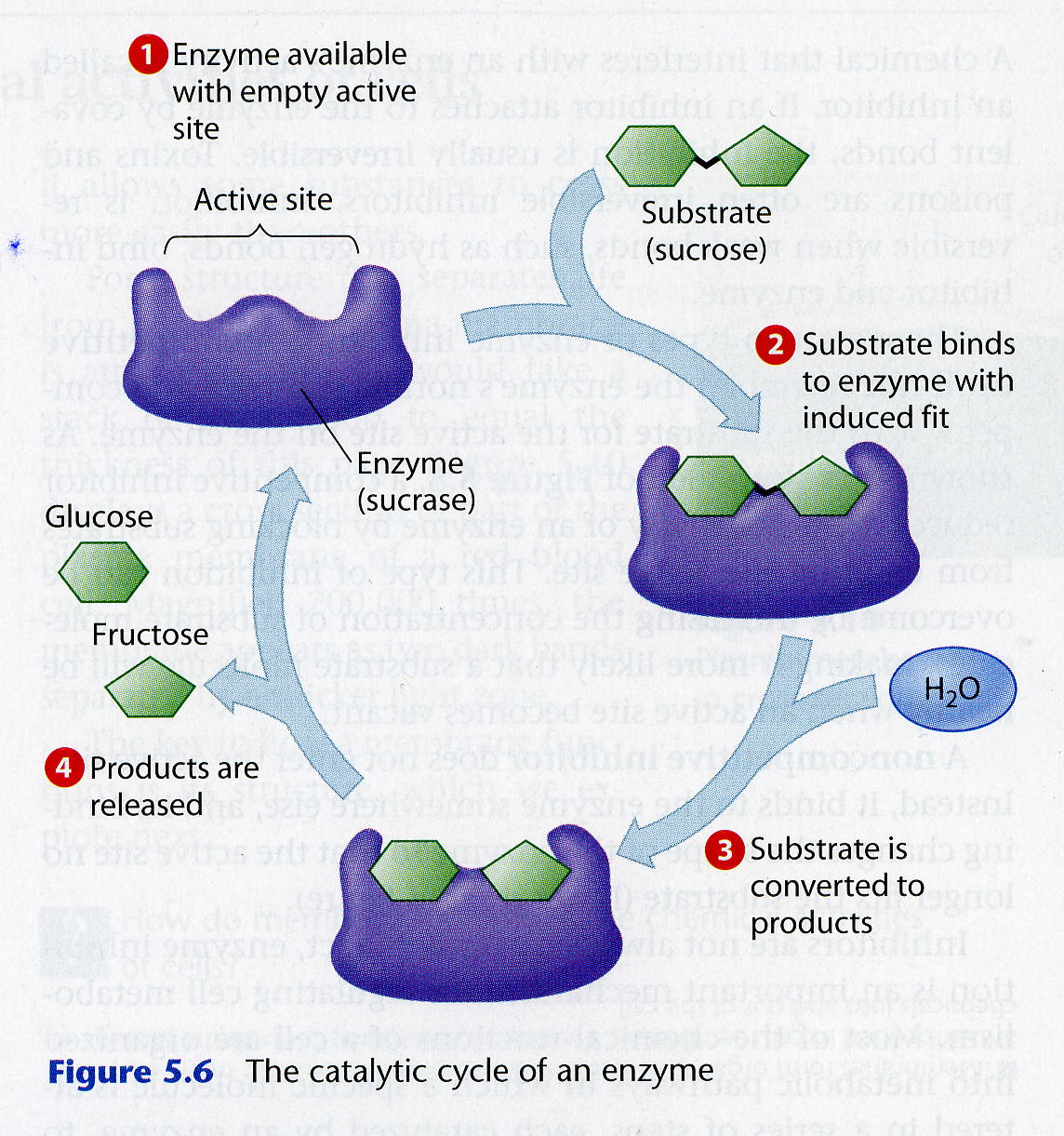
Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period: \_\_\_\_\_\_

**Day 1 – Enzymes (proteins that speed up reactions!) – Keepin’ it movin’**

*Use your notes & textbook as a resource.*

Enzyme available with an empty (ii)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

1. **Label the Image.**

(iii) \_\_\_\_\_\_\_\_\_\_

binds to the enzyme.

(i) \_\_\_\_\_\_\_\_\_\_\_ (sucrase)

Fill in the boxes labeled (i) through (iv). Use the following words:

* substrate
* active site
* enzyme
* products

Some words will be used more than once!

(iv) \_\_\_\_\_\_\_\_\_\_\_\_are released

(iii) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is converted to

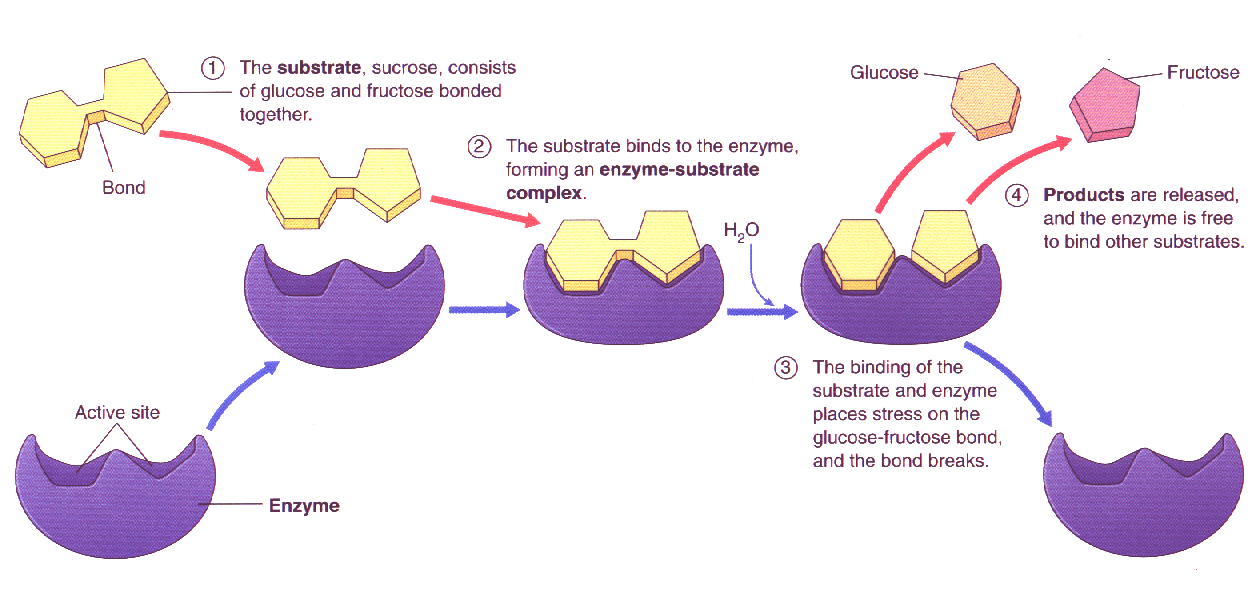
(iv) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. **Observation recall**

We observed oxygen bubbles (O2) being formed with celery in hydrogen peroxide. This is the reaction:

2 H2O2 🡪 2 H2O+ O2

1. The rate of this reaction is increased by the enzyme \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
2. What is the substrate (reactant) in this reaction? (What is being broken down?) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. What are the products of this reaction? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. **Match the sentences with the correct part of the image below**



|  |  |
| --- | --- |
|  | 1. The binding of the substrate and enzyme places stress on the glucose-fructose bond and the bond breaks |
|  | 1. The substrate binds to the enzyme, forming an enzyme-substrate complex |
|  | 1. Products are released and the enzyme is free to bind to other substances |
|  | 1. The substrate, sucrose, consists of glucose and fructose bonded together |

1. **True or False? If the statement is false correct it.**
2. \_\_\_\_\_\_\_ Enzymes interact with specific substrates
3. \_\_\_\_\_\_\_ Enzymes change shape after a reaction occurs but return to their original shape once the reaction finishes
4. \_\_\_\_\_\_\_\_Enzymes are only used to increase rates of reactions that combine/join of substrates.
5. \_\_\_\_\_\_\_Enzymes cannot be reused.
6. \_\_\_\_\_\_\_ Enzymes increase the rate of chemical reactions.